

|          | Type       | L #       | Hits          | Search Text                                           | DBs                                                                                                    |
|----------|------------|-----------|---------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>1</b> | <b>BRS</b> | <b>L1</b> | <b>800414</b> | <b>array or microarray or<br/>bioarray or biochip</b> | <b>US-<br/>PGPUB<br/>;<br/>USPAT;<br/>USOCR<br/>; EPO;<br/>JPO;<br/>DERWE<br/>NT;<br/>IBM_TD<br/>B</b> |
| <b>2</b> | <b>BRS</b> | <b>L2</b> | <b>44467</b>  | <b>1 and (DNA or RNA)</b>                             | <b>US-<br/>PGPUB<br/>;<br/>USPAT;<br/>USOCR<br/>; EPO;<br/>JPO;<br/>DERWE<br/>NT;<br/>IBM_TD<br/>B</b> |

|          | <b>Time Stamp</b>           | <b>Comments</b> | <b>Error Definition</b> | <b>Errors</b> |
|----------|-----------------------------|-----------------|-------------------------|---------------|
| <b>1</b> | <b>2005/06/23<br/>17:27</b> |                 |                         |               |
| <b>2</b> | <b>2005/06/23<br/>17:28</b> |                 |                         |               |

|   | Type | L # | Hits | Search Text                        | DBs                                                                                   |
|---|------|-----|------|------------------------------------|---------------------------------------------------------------------------------------|
| 3 | BRS  | L3  | 181  | 2 and hydrophobic near5<br>barrier | US-<br>PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |
| 4 | BRS  | L4  | 25   | 3 and subarray                     | US-<br>PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |

|          | <b>Time Stamp</b>           | <b>Comments</b> | <b>Error Definition</b> | <b>Errors</b> |
|----------|-----------------------------|-----------------|-------------------------|---------------|
| <b>3</b> | <b>2005/06/23<br/>17:28</b> |                 |                         |               |
| <b>4</b> | <b>2005/06/23<br/>17:36</b> |                 |                         |               |

|   | Type | L # | Hits  | Search Text                          | DBs                                                                                   |
|---|------|-----|-------|--------------------------------------|---------------------------------------------------------------------------------------|
| 5 | BRS  | L5  | 14885 | phosphoramidite                      | US-<br>PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |
| 6 | BRS  | L6  | 1294  | 5 and trityl same<br>phosphoramidite | US-<br>PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |

|          | <b>Time Stamp</b>           | <b>Comments</b> | <b>Error Definition</b> | <b>Errors</b> |
|----------|-----------------------------|-----------------|-------------------------|---------------|
| <b>5</b> | <b>2005/06/23<br/>17:39</b> |                 |                         |               |
| <b>6</b> | <b>2005/06/23<br/>17:39</b> |                 |                         |               |

|   | Type | L # | Hits | Search Text | DBs                                                                                   |
|---|------|-----|------|-------------|---------------------------------------------------------------------------------------|
| 7 | BRS  | L7  | 596  | 1 and 6     | US-<br>PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |
| 8 | BRS  | L8  | 9    | 3 and 7     | US-<br>PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |

|          | <b>Time Stamp</b>           | <b>Comments</b> | <b>Error Definition</b> | <b>Errors</b> |
|----------|-----------------------------|-----------------|-------------------------|---------------|
| <b>7</b> | <b>2005/06/23<br/>17:39</b> |                 |                         |               |
| <b>8</b> | <b>2005/06/23<br/>17:59</b> |                 |                         |               |



|    | Type | L # | Hits | Search Text                       | DBs                                                                        |
|----|------|-----|------|-----------------------------------|----------------------------------------------------------------------------|
| 9  | BRS  | L9  | 84   | phosphoramidite same hydrophobic  | US-PGPUB;<br>USPAT;<br>USOCR;<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TDB |
| 10 | BRS  | L10 | 37   | 9 and trityl same phosphoramidite | US-PGPUB;<br>USPAT;<br>USOCR;<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TDB |

|           | <b>Time Stamp</b>           | <b>Comments</b> | <b>Error Definition</b> | <b>Errors</b> |
|-----------|-----------------------------|-----------------|-------------------------|---------------|
| <b>9</b>  | <b>2005/06/23<br/>17:59</b> |                 |                         |               |
| <b>10</b> | <b>2005/06/23<br/>18:38</b> |                 |                         |               |

|    | Type | L # | Hits | Search Text                                      | DBs                                                                               |
|----|------|-----|------|--------------------------------------------------|-----------------------------------------------------------------------------------|
| 11 | BRS  | L11 | 23   | 10 and 1                                         | US-PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |
| 12 | BRS  | L12 | 14   | 10 not 11                                        | US-PGPUB<br>;<br>USPAT;<br>USOCR<br>; EPO;<br>JPO;<br>DERWE<br>NT;<br>IBM_TD<br>B |
| 13 | BRS  | L13 | 17   | 9 not 10                                         | USPAT                                                                             |
| 14 | BRS  | L14 | 3    | "2004029586"                                     | DERWE<br>NT                                                                       |
| 15 | IS&R | L15 | 3    | ((("6355419") or ("6028189") or ("6210894")).PN. | USPAT                                                                             |
| 16 | BRS  | L16 | 1    | "6355419".pn. and hydrophobic                    | USPAT                                                                             |
| 17 | BRS  | L17 | 3    | 15 and phosphoramidite                           | USPAT                                                                             |

|           | <b>Time Stamp</b>           | <b>Comments</b> | <b>Error Definition</b> | <b>Errors</b> |
|-----------|-----------------------------|-----------------|-------------------------|---------------|
| <b>11</b> | <b>2005/06/23<br/>18:07</b> |                 |                         |               |
| <b>12</b> | <b>2005/06/23<br/>18:21</b> |                 |                         |               |
| <b>13</b> | <b>2005/06/23<br/>18:12</b> |                 |                         |               |
| <b>14</b> | <b>2005/06/23<br/>18:37</b> |                 |                         |               |
| <b>15</b> | <b>2005/06/23<br/>18:51</b> |                 |                         |               |
| <b>16</b> | <b>2005/06/23<br/>18:46</b> |                 |                         |               |
| <b>17</b> | <b>2005/06/23<br/>18:51</b> |                 |                         |               |

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=> s phosphoramidite  
L1            2609 PHOSPHORAMIDITE

=> s l1 and hydrophobic (w) (barrier or coating)  
          128913 HYDROPHOBIC  
          198835 BARRIER  
          703971 COATING  
          840 HYDROPHOBIC (W) (BARRIER OR COATING)  
L2            1 L1 AND HYDROPHOBIC (W) (BARRIER OR COATING)

=> d

L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN

Full Text

AN 2004:287959 CAPLUS  
DN 140:283929  
TI Microarray containing hydrophobic barriers between subarrays  
IN McCormick, Mark; Stengele, Klaus-Peter; Barrett, Gary; Green, Roland  
PA Nimblegen Systems, Inc., USA  
SO PCT Int. Appl., 15 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

|    | PATENT NO.                                                                                                                                                                                                                                                                                                                                                            | KIND | DATE     | APPLICATION NO. | DATE     |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 2004029586                                                                                                                                                                                                                                                                                                                                                         | A1   | 20040408 | WO 2003-US30298 | 20030929 |
|    | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
|    | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,                                                                                                                                                                                                                                   |      |          |                 |          |

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 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 US 2004110211 A1 20040610 US 2003-673760 20030929  
 PRAI US 2002-414777P P 20020927  
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> fil PCTFULL;s (WO 2004029586)/pn,apps

|                      |            |         |
|----------------------|------------|---------|
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|                      | ENTRY      | SESSION |
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 MOST RECENT UPDATE WEEK: 200524 <200524/EW>  
 FILE COVERS 1978 TO DATE

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1 (WO 2004029586)/PN  
 (WO2004029586/PN)  
 0 (WO 2004029586)/APPS  
 L3 1 (WO 2004029586)/PN,APPS

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L3 ANSWER 1 OF 1 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

ACCESSION NUMBER: 2004029586 PCTFULL ED 20040414 EW 200415  
 TITLE (ENGLISH): MICROARRAY WITH HYDROPHOBIC BARRIERS  
 TITLE (FRENCH): MICRORESEAU A BARRIERES HYDROPHOBES  
 INVENTOR(S): MCCORMICK, Mark, 5710 Taychopera Road, Madison, WI  
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 LANGUAGE OF FILING: English  
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 PATENT INFORMATION:

| NUMBER        | KIND | DATE     |
|---------------|------|----------|
| -----         |      |          |
| WO 2004029586 | A1   | 20040408 |

DESIGNATED STATES

|             |                                                                                                                                                                                                                                                                                        |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W:          | AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR<br>CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID<br>IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD<br>MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG<br>SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW |
| RW (ARIPO): | GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW                                                                                                                                                                                                                                                 |
| RW (EAPO):  | AM AZ BY KG KZ MD RU TJ TM                                                                                                                                                                                                                                                             |
| RW (EPO):   | AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU                                                                                                                                                                                                                                  |

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MC NL PT RO SE SI SK TR  
RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
APPLICATION INFO.: WO 2003-US30298 A 20030929  
PRIORITY INFO.: US 2002-60/414,777 20020927  
INT. PATENT CLASSIF.:  
MAIN: G01N001-00  
SECONDARY: C12Q001-68

## ABSTRACT (ENGLISH):

The present invention is a microarray having a plurality of subarrays with a hydrophobic barrier that defines each subarray of the microarray, and a method for preparing such a microarray. The hydrophobic barrier is prepared using a microarray synthesis instrument, where NPPOC photoprotected and other hydrophobic group-bearing phosphoramidities are coupled to the microarray using light from a digital micromirror to direct formation of the hydrophobic barrier. The method utilizes hydrophobicity, a well-established property, of conventional phosphoramidite protecting groups for an entirely new application, the synthesis of hydrophobic barriers on microarrays.

## ABSTRACT (FRENCH):

La presente invention porte sur un microreseau possedant une pluralite de sous-reseaux pourvus d'une barriere hydrophobe qui forme chaque sous-reseau du microreseau, et sur un procede de preparation de ce microreseau. La barriere hydrophobe est preparee a l'aide d'un instrument de synthese de microreseau, des phosphoramidites photoproteges par NPPOC et autres phosphoramidites supportant des groupes hydrophobes etant couples au microreseau par la lumiere emanant d'un micromiroir numerique afin de guider la formation de la barriere hydrophobe. Ce procede utilise l'hydrophobicite, une propriete bien etablie, des groupes de protection conventionnels des phosphoramidites pour une toute nouvelle application, la synthese des barrieres hydrophobes sur des microreseaux.

## DESCRIPTION:

### MICROARRAY WITH HYDROPHOBIC BARRIERS

### CROSS-REFERENCE TO RELATED APPLICATIONS

100011 This application claims the benefit of U.S. Provisional Patent Application Serial Number 60/414,777, filed on September 27, 2002.

### STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable.

### BACKGROUND OF THE INVENTION

[0003] DNA microarray technology has been applied to many areas such as gene expression and discovery, mutation detection, allelic and evolutionary sequence comparison, genome mapping and more. Unfortunately, most applications fail to tap into the full capacity of microarray technology as many hybridization assays involve far less probes than are available using the full capability of the number of features possible in a high-density microarray.

[0004] The advent of DNA microarray technology makes it possible to build an array of hundreds of thousands of DNA sequences in a very small area, such as the size of a microscopic slide. See, e.g., U. S. Patent No. 6,375,903 and U.S. Pat. No. 5,143,854;



each of which is hereby incorporated by reference in its entirety. The disclosure of U. S. Pat. No. 6,375,903 enables the construction of so-called maskless array synthesizer (MASTm) instruments in which light is used to direct synthesis of the DNA sequences, the light direction being performed using a digital micromirror device (DMD). Using an MASTm instrument, the selection of DNA sequences to be constructed in the microarray is under software control so that individually customized arrays can be built to order. In general, MASTm based DNA microarray synthesis technology allows for the parallel synthesis of over 800,000 unique oligonucleotides in a very small area of on a standard microscope slide. For many applications, the entirety of the synthesized array is devoted to the evaluation of one sample of test nucleic acids (i.e., RNA or DNA). In these applications, the entire microarray area is enclosed in a small chamber so as to allow for the application of the single sample, thus providing a very efficient means for measuring the concentration of a very large number of nucleic acid molecules within that one sample. A typical application of this sort is gene expression profiling.

[0005] In applications where a smaller number of genes are being studied, or where a reduced set of probes will be queried for each sample, the microarray can be logically divided into any number of smaller arrays (i.e., subarrays) each having the same or different nucleotide

I probes, a concept sometimes referred to as an array of arrays. To use an array of arrays efficiently, multiple samples are hybridized in parallel, in a single experiment, with each sample being hybridized to a given and known subarray in the array of arrays. This parallel loading strategy provides for efficient utilization of the high synthesis capacity of the microarray. In order to load multiple samples onto an array or an array of arrays and avoid sample cross-contamination, some mechanism must be provided to sequester each sample from adjacent samples. Currently, microarrays built for this purpose (e.g., U.S. Patent No. 5,874,219) use physical wells to separate probe sets for different samples. This approach, however, requires the user to know precisely where the array has been synthesized on the slide in order to properly place the barriers forming the well walls. Alternatively, the user could compensate for the ambiguity by reducing the dimensions of the subarrays in order to allow for error in barrier placement. This is not an ideal approach since it wastes synthetic capacity in the interest of enclosing a full experimental set of features within each subarray.

#### BRIEF SUMMARY OF THE INVENTION

[00061 The present invention is summarized as a microarray having a

hydrophobic barrier area that separates and defines subarrays on the microarray. The concept behind the invention is to provide hydrophobic barriers around a microarray so as to inhibit cross-contamination of fluids between subarrays on an array, when conducting multiple sample assays. The method for synthesizing the barriers surrounding microarrays utilizes hydrophobicity, a well-established property of for example, the trityl protecting group of conventional phosphoramidites for an entirely new application. In general, the method employs the step of coupling the barrier areas on the microarray with hydrophobic group-bearing phosphoramidites, such as trityl-protected phosphoramidite, under conditions where a deblocking step is not performed.

[00071 Accordingly, one aspect of the present invention provides for a microarray having a substrate on which are arranged a plurality of subarrays, wherein each subarray on the microarray is surrounded by a hydrophobic barrier, which separates each subarray from an adjacent subarray and wherein the hydrophobic barrier inhibits fluid communication between each subarray of the microarray. Also, another aspect of the present invention provides for a method for preparing a microarray having a hydrophobic barrier defining a plurality of subarrays on the microarray, where the method includes: selecting at least one probe set comprising probes of interest; synthesizing the probe sets on a microarray slide to provide the plurality of subarrays; depositing between each of the subarrays a hydrophobic group-bearing phosphoramidite to provide a hydrophobic barrier which surrounds each subarray; and inhibiting fluid communication between each of the subarrays on the microarray.

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[00081 A further aspect of the present invention provides that a slide containing the array of arrays may be held in the identical position throughout synthesis of both the oligonucleotides and the hydrophobic barrier. Thus, synthesized barriers could be placed immediately adjacent to synthesized features on a subarray allowing the use of all potential synthesis sites within the barrier-enclosed area, referred to as a subarray.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[00091 Figure 1 is an illustration of two subarrays formed on a microarray and the blackened hydrophobic barrier that surrounds each subarray.

100010] Figure 2 is an illustration of a trityl core group.

100011] Figure 3 is a schematic of a plurality of subarrays on a microarray and the hydrophobic barrier surrounding each subarray.

[000121 Figure 4 is an illustration of a plurality of subarrays on a

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microarray and the  
blackened hydrophobic barrier that surrounds each subarray.

### DETAILED DESCRIPTION OF THE INVENTION

[000131 The present invention is a microarray having a hydrophobic barrier area that separates and defines the subarrays of the microarray. The hydrophobic barrier is constructed using a MASTM microarray onto the substrate of the microarray and without prior special treatment of the substrate. A digital micromirror device (DMD) is used to direct light to the location of the hydrophobic barrier.

[000141 In one method, a uniform layer of NPPOC (2-(2 nitro phenyl) propoxy carbonyl) protected phosphoramidite is coupled across the entirety of the array surface and individual subarrays are synthesized in the desired arrangement. Regions where hydrophobic groups are desired are selectively photo-deprotected, and conventional trityl (Dimethoxytrityl) protected groups or other phosphoramidites bearing hydrophobic groups are coupled to the barrier area on the microarray. The barrier areas are coupled with trityl-protected phosphoramidite under conditions where a deblock step is not performed. The method utilizes a well-established hydrophobic property of the trityl moiety, shown in Fig. 2, on the trityl protecting group of conventional phosphoramidites for an entirely new application, the synthesis of hydrophobic barriers on microarrays. The result is a grid of subarrays around each subarray where each subarray is separate from an adjacent subarray by a barrier of hydrophobic group-bearing phosphoramidites.

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[000151 As described above, in practice, the method is only a slight variation on the normal microarray synthesis process. This characteristic allows the hydrophobic barrier to be constructed in place by the MASTM instrument itself without prior treatment of the substrate. The normal method of microarray synthesis is initiated by the synthesis of a short DNA-based linker sequence over the entirety of the available array surface. In the new method described here, the areas of a microarray are separated into two basic types of areas: hydrophilic subarrays (containing probe sets from 1 to hundreds of thousands) and hydrophobic barrier areas.

[00016] To understand this concept, the introduction of some terminology is helpful. For the purpose of the present invention, a subarray is an area on the microarray containing a plurality of features in which a number of nucleic acid probes, a set of probes of interest are all anchored. In general, subarrays may vary in size depending upon the number of probes of

interest included in each probe set. The size of the subarrays is determined by the number of features combined in a single subarray area and the number of micromirror device elements assigned to each feature of the subarray on a microarray. Features are the individual probe synthesis areas: 1 feature = 1 probe = 1 (or more) mirrors. For purposes of this invention one can dynamically assign 1 or more mirrors to a feature in the array design and the terminology used is 1:4 meaning 1 mirror for the probe, four mirrors for the feature. Thus,  $1024 \times 768 = 786432$  mirrors / 4 mirror per feature = 196608 features/array. 1: 1 would be 786432 features. A subarray may also contain blank positions (a position available for a probe but is left with no probe). For the purpose of the present invention, the shape of each subarray does not matter and may vary.

[000171 The barrier area is the space that immediately surrounds the subarray. The barrier area separates and defines each subarray in the microarray by forming a hydrophobic barrier around each subarray or sample area. The hydrophobic barrier is flexibly deployable within the array and can be placed with great precision immediately adjacent to and surrounding the subarray areas. Thus, by coupling hydrophobic group-bearing phosphoramidites to the barrier area, the area surrounding the subarray is able to then provide a hydrophobic barrier to inhibit fluid communication between subarrays during hybridization of the subarrays to sample(s). The hydrophobic barrier is typically coupled last during synthesis and has no impact on how the array synthesis is performed, apart from the addition of the trityl coupling step. The hydrophobic barrier is used to contain individual samples during the use of the array in a hybridization to samples. Accordingly, suitable operations may include hybridization assays, where the hydrophobic barrier would prevent cross-contamination between individual subarray hybridizations on a microarray. Using the technique described here, ultimately a set of features

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of a subarray are compartmentalized by hydrophobic barriers from other features of other subarrays on a microarray, as shown in Figs. 3 and 4.

[000181 To build the hydrophobic barrier in the microarray, barrier areas are coupled with a hydrophobic group-bearing phosphoramidites, such as a trityl-protected phosphoramidite, under conditions where a deblock step is not performed. In the preferred embodiment, this step is performed following the coupling of the NPPOC-protected phosphoramidite to the array area during routine microarray synthesis.

[000191 Therefore the first synthesis step is the coupling of an NPPOC protected

phosphoramidite everywhere on the array. The NPPOC is the photoprotecting group that allows for patterning with the mirror array. The probes are synthesized in their grid and the hydrophobic areas are left unexposed to light (therefore protected) until the completion of synthesis when they are deprotected (by light) and trityl-phosphoramidite is coupled only in these regions. The NPPOC-T is used as a pattemable initial layer but any NPPOC (or other photoprotected phosphoramidite) would work. The NPPOC is necessary but not sufficient for the invention in that it is actually the trityl group that is providing the hydrophobicity (as might any other hydrophobic moiety protected phosphoralnidite) but the NPPOC is allowing for photopatterning.

[000201] Linker sequences, on the other hand, are synthesized in subarray areas where features will be synthesized. Linkers are short molecules (typically but not necessarily oligonucleotides) used to place the probe molecules further off the array surface to improve their accessibility in solution thereby improving hybridization kinetics. The result is a plurality or grid of subarrays where every subarray in the grid is surrounded by barriers consisting of hydrophobic group-bearing phosphoramidites. During subsequent array hybridization operations, the hydrophobic barriers surrounding each subarray are left intact, preventing fluid communication between the individual subarrays on the microarray during subsequent operations.

[00021] The invention will now be detailed by means of the following example.

#### EXAMPLE

[00022] Building Hydrophobic Barriers Surrounding Subarrays.

[00023] The photolabile phosphoramidite protecting group, NPPOC-T was coupled to the entire array surface under standard coupling conditions well known in the art of oligonucleotide and in situ array synthesis. In order to carry out the inventive method, care is taken to ensure that there is appropriate spacing, suitably at least between 4 to 7 mirror wide lanes (60-120gm), and optionally longer spacing is suitable. The probe subarrays are synthesized by the MASTm instrument according to the method described herein. The area to be a barrier is deprotected using 5 the digital mirror devices of the MASTm inicroarray synthesis instrument. The trityl.

phosphoramidite (protected phosphoramidite) is then coupled to the barrier areas also using methods well known to one skilled in the art. A deblocking stop is not performed. The entire array is deprotected under conditions that do not remove the trityl moiety. The deprotection conditions are used for all suitable arrays. These conditions do not remove

the trityl group while they do remove all side chain protecting groups on the synthesized probes in the array. The result is a microarray on which are arranged a plurality of subarrays surrounded by a hydrophobic barrier inhibiting fluid communication between each subarray of the microarray during an assay.

[00024] The present invention is most useful for an application in which a hybridization assay is used to analyze a large number of samples for example. Suitable applications may include toxicogenomic screening of drug candidates, SNP scoring, and targeted resequencing among others. It is understood, however, that examples and embodiments of the present invention set forth above are illustrative and not intended to confine the invention. The invention embraces all modified forms of the examples and embodiments as come within the scope of the following claims.

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#### CLAIM OR CLAIMS

CLAIMS (ENGLISH) What is claimed is:

1. A microarray comprising a substrate on which are arranged a plurality of subarrays, wherein each subarray on the microarray is surrounded by a hydrophobic barrier, which separates each subarray from an adjacent subarray and wherein the hydrophobic barrier inhibits fluid communication between each subarray of the microarray.
- 2 The microarray of Claim 1 wherein the hydrophobic barrier comprises of a hydrophobic group-bearing phosphoramidite.
- 3 The microarray of Claim 2 wherein the hydrophobic group-bearing phosphoramidite is a trityl protected phosphoramidite.
- 4 The method of Claim 1 wherein the hydrophobic barrier is flexibly deployable within the array and can be placed with great precision immediately adjacent to and surrounding the subarray areas.
- 5 A method for preparing a microarray having a hydrophobic barrier defining a plurality of subarrays on the microarray, the method comprising the steps of:
  - a) selecting at least one probe set comprising probes of interest;
  - b) synthesizing the probe sets on a microarray slide to provide the plurality of subarrays;
  - c) depositing between each of the subarrays, a hydrophobic group-bearing phosphoramidite to provide a hydrophobic barrier which surrounds each subarray; and
  - d) inhibiting fluid communication between each of the subarrays on the microarray.
- 6 The method of Claim 5 wherein hydrophobic barrier is synthesized using a hydrophobic group-bearing phosphoramidite.
- 7 The method of Claim 6 wherein the phosphoramidite is a trityl protected

phosphoramidite.

7

. The method of Claim 5 wherein the hydrophobic barrier is flexibly deployable within the array and can be placed with great precision immediately adjacent to and surrounding the subarray areas.

8

=> d his

(FILE 'HOME' ENTERED AT 18:17:04 ON 23 JUN 2005)

FILE 'CAPLUS' ENTERED AT 18:17:14 ON 23 JUN 2005

L1 2609 S PHOSPHORAMIDITE

L2 1 S L1 AND HYDROPHOBIC (W) (BARRIER OR COATING)

FILE 'PCTFULL' ENTERED AT 18:21:09 ON 23 JUN 2005

L3 1 S (WO 2004029586)/PN,APPS

=> s l1 and hydrophobic (p) (barrier or coating)

8046 PHOSPHORAMIDITE

59837 HYDROPHOBIC

62253 BARRIER

132642 COATING

28268 HYDROPHOBIC (P) (BARRIER OR COATING)

L4 2256 L1 AND HYDROPHOBIC (P) (BARRIER OR COATING)

=> 4 and trityl

4 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> s l4 and trityl

5900 TRITYL

L5 441 L4 AND TRITYL

=> 5 and hydrophobic (p) surface

5 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> s l5 and hydrophobic (p) surface

59837 HYDROPHOBIC

479915 SURFACE

49205 HYDROPHOBIC (P) SURFACE

L6 434 L5 AND HYDROPHOBIC (P) SURFACE

=> d 1-10

L6 ANSWER 1 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2005045039 PCTFULL ED 20050523 EW 200520

TIEN RNA INTERFERENCE MEDIATED INHIBITION OF INTERCELLULAR ADHESION MOLECULE (ICAM) GENE EXPRESSION USING SHORT INTERFERING NUCLEIC ACID (siNA)

TIFR INHIBITION MEDIEE PAR UN ARN A INTERFERENCE DE L'EXPRESSION GENIQUE D'UNE MOLECULE D'ADHESION INTERCELLULAIRE (ICAM) A L'AIDE D'UN ACIDE NUCLEIQUE COURT A INTERFERENCE (SINA)

# STN Columbus

IN RICHARDS, Ivan, 3533 East D Avenue, Kalamazoo, MI 49009, US [US, US];  
 McSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US]  
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 [US, US], for all designates States except US;  
 RICHARDS, Ivan, 3533 East D Avenue, Kalamazoo, MI 49009, US [US, US],  
 for US only;  
 McSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US],  
 for US only  
 AG TERPSTRA, Anita, J., McDonnell Boehnen Hulbert Berghoff LLP, 300 South  
 Wacker Drive, Suite 3200, Chicago, IL 60606, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2005045039 A2 20050519  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
 CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
 IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG  
 MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE  
 SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM  
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 FI GE HU JP KE KG KP KR KZ LS MD MX MZ NI PH PL PT RU SK  
 SL TJ TR TT UA UG UZ YU  
 RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
 NL PL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2004-US27366 A 20040820  
 PRAI US 2003-10/693,059 20031023  
 US 2003-10720,448 20031124  
 US 2003-10/727,780 20031203  
 US 2004-10/757,803 20040114  
 US 2004-60/543,480 20040210  
 US 2004-10/780,447 20040213  
 US 2004-10/800,487 20040315  
 US 2004-10/826,966 20040416  
 US 2004-PCT/US04/13456 20040430  
 US 2004-PCT/US04/16390 20040524  
 ICM C12N015-11

L6 ANSWER 2 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

## Full Text

AN 2005045035 PCTFULL ED 20050523 EW 200520  
 TIEN RNA INTERFERENCE MEDIATED INHIBITION OF NOGO AND NOGO RECEPTOR GENE  
 EXPRESSION USING SHORT INTERFERING NUCLEIC ACID (siNA)  
 TIFR INHIBITION MEDIEE PAR INTERFERENCE ARN DE L'EXPRESSION GENIQUE DE NOGO  
 ET DU RECEPTEUR NOGO AU MOYEN D'UN PETIT ACIDE NUCLEIQUE INTERFERENT  
 (SINA)  
 IN MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US];  
 CHOWRIRA, Bharat, M., 576 Manorwood Lane, Louisville, CO 80027, US [US,  
 US];  
 HAEBERLI, Peter, 705 7th Street, Boulder, CO 80513, US [US, US]  
 PA SIRNA THERAPEUTICS, INC., 2950 Wilderness Place, Boulder, CO 80301, US  
 [US, US], for all designates States except US;  
 MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US],  
 for US only;  
 CHOWRIRA, Bharat, M., 576 Manorwood Lane, Louisville, CO 80027, US [US,  
 US], for US only;  
 HAEBERLI, Peter, 705 7th Street, Boulder, CO 80513, US [US, US], for US  
 only



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Wacker Drive, Suite 3200, Chicago, IL 60606, US

LAF English

LA English

DT Patent

PI WO 2005045035

A2 20050519

DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG  
MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE  
SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM  
ZW

W-U: AE AL AM AT AZ BG BR BY BZ CN CO CR CZ DE DK EC EE EG ES  
FI GE HU JP KE KG KP KR KZ LS MD MX MZ NI PH PL PT RU SK  
SL TJ TR TT UA UG UZ YU

RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
NL PL PT RO SE SI SK TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2004-US26930 A 20040820

PRAI US 2003-10/693,059 20031023

US 2003-10/720,448 20031124

US 2003-10/727,780 20031203

US 2004-10/757,803 20040114

US 2004-60/543,480 20040210

US 2004-10/780,447 20040213

US 2004-10/826,966 20040416

US 2004-PCT/US04/13456 20040430

US 2004-PCT/US04/16390 20040524

ICM C12N015-11

L6 ANSWER 3 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2005045034 PCTFULL ED 20050523 EW 200520

TIEN RNA INTERFERENCE MEDIATED TREATMENT OF PARKINSON DISEASE USING SHORT  
INTERERERING NUCLEIC ACID (siNA)

TIFR TRAITEMENT MEDIE PAR INTERFERENCE ARN DE LA MALADIE DE PARKINSON AU  
MOYEN D'UN PETIT ACIDE NUCLEIQUE INTERFERENT (SINA)

IN MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US];

HAEBERLI, Peter, 705 7th Street, Berthoud, CO 80513, US [US, US];

BEIGELMAN, Leonid, 5530 Colt Drive, Longmont, CO 80027, US [US, US]

PA SIRNA THERAPEUTICS, INC., 2950 Wilderness Place, Boulder, CO 80301, US  
[US, US], for all designates States except US;

MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US],  
for US only;

HAEBERLI, Peter, 705 7th Street, Berthoud, CO 80513, US [US, US], for US  
only;

BEIGELMAN, Leonid, 5530 Colt Drive, Longmont, CO 80027, US [US, US], for  
US only

AG TERPSTRA, Anita, J., McDonnell Boehnen Hulbert and Berghoff, 300 South  
Wacker Drive, Suite 3100, Chicago, IL 60606, US

LAF English

LA English

DT Patent

PI WO 2005045034

A2 20050519

DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG  
MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE  
SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM

## STN Columbus

ZW

W-U: AE AL AM AT AZ BG BR BY BZ CN CO CR CZ DE DK EC EE EG ES  
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SL TJ TR TT UA UG UZ YU

RW (ARIPO): BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
NL PL PT RO SE SI SK TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2004-US17630 A 20040603

PRAI US 2003-10/693,059 20031023

US 2003-10/698,311 20031031

US 2003-10/720,448 20031124

US 2003-10/727,780 20031203

US 2004-10/757,803 20040114

US 2004-60/543,480 20040210

US 2004-10/780,447 20040213

US 2004-10/826,966 20040416

US 2004-PCT/US04/13456 20040430

US 2004-PCT/US04/16390 20040524

ICM C12N015-11

ICS C12P019-34; C07H021-02; C07H021-04; A01N043-04; A61K031-713

L6 ANSWER 4 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2005044981 PCTFULL ED 20050523 EW 200520

TIEN RNA INTERFERENCE MEDIATED INHIBITION OF GENE EXPRESSION USING SHORT  
INTERFERING NUCLEIC ACID (SINA)

TIFR INHIBITION A MEDIATION D'INTERFERENCE D'ARN DE L'EXPRESSION GENETIQUE A  
L'AIDE D'ACIDE NUCLEIQUE D'INTERFERENCE COURT (SINA)

IN HAEBERLI, Peter, 705 7th Street, Berthoud, CO 80513, US [US, US];  
MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US]

PA SIRNA THERAPEUTICS, INC., 2950 Wilderness Place, Boulder, CO 80301, US  
[US, US], for all designates States except US;  
HAEBERLI, Peter, 705 7th Street, Berthoud, CO 80513, US [US, US], for US  
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MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US],  
for US only

AG HILLMAN, Lisa, M., W., McDonnell Boehnen Hulbert and Berghoff LLP, 300  
South Wacker Drive, Suite 3200, Chicago, IL 60606, US

LAF English

LA English

DT Patent

PI WO 2005044981 A2 20050519

DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
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SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM  
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RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
NL PL PT RO SE SI SK TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2004-US27403 A 20040820

PRAI US 2003-10/693,059 20031023

## STN Columbus

US 2003-10/720,448 20031124  
 US 2003-10/727,780 20031203  
 US 2004-10/757,803 20040114  
 US 2004-60/543,480 20040210  
 US 2004-10/780,447 20040213  
 US 2004-10/826,966 20040416  
 US 2004-PCT/US04/13456 20040430  
 US 2004-PCT/US04/16390 20040524  
 ICM C12N

L6 ANSWER 5 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2005040379 PCTFULL ED 20050511 EW 200518  
 TIEN RNA INTERFERENCE MEDIATED INHIBITION OF RAS GENE EXPRESSION USING SHORT  
 INTERFERING NUCLEIC ACID (siNA)  
 TIFR INHIBITION INDUITE PAR INTERFERENCE D'ARN DE L'EXPRESSION GENIQUE RAS AU  
 MOYEN DE PETIT ACIDE NUCLEIQUE INTERFERENT (SINA)  
 IN MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US]  
 PA SIRNA THERAPEUTICS, INC., 2950 Wilderness Place, Boulder, CO 80301, US  
 [US, US], for all designates States except US;  
 MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US],  
 for US only  
 AG TERPSTRA, Anita, J., McDonnell Boehnen Hulbert Berghoff LLP, 300 South  
 Wacker Drive, Chicago, IL 60606, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2005040379 A2 20050506  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
 CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
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 SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM  
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 RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2004-US27333 A 20040820  
 PRAI US 2003-10/693,059 20031023  
 US 2003-10/720,448 20031124  
 US 2003-10/727,780 20031203  
 US 2004-10/757,803 20040114  
 US 2004-60/543,480 20040210  
 US 2004-10/780,447 20040213  
 US 2004-10/826,966 20040416  
 US 2004-PCT/US04/013456 20040430  
 US 2004-PCT/US04/016390 20040524  
 ICM C12N015-11

L6 ANSWER 6 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2005040180 PCTFULL ED 20050511 EW 200518  
 TIEN ANTISENSE MODULATION OF SUPEROXIDE DISMUTASE 1, SOLUBLE (SOD-1)  
 EXPRESSION  
 TIFR MODULATION ANTISENS DE L'EXPRESSION DE LA SUPEROXYDE DISMUTASE 1 SOLUBLE  
 (SOD-1)

# STN Columbus

IN BENNETT, Frank, C., 1347 Cassins Street, Carlsbad, CA 92009, US [US, US];  
 DOBIE, Kenneth, W, 703 Stratford Court, #4, Del Mar, CA 92014, US [US, US];  
 CLEVELAND, Don, W., 14181 Half Moon Bay Drive, Del Mar, CA 92014, US [US, US];  
 SMITH, Richard, Alan [, ];  
 CONDON, Thomas, P., 2450 Mark Circle, Carlsbad, CA 92008, US [US, US];  
 JAIN, Ravi, 306 Chinguapin Avenue, #2, Carlsbad, CA 92008, US [US, US];  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US, US]  
 PA ISIS PHARMACEUTICALS, INC., 2292 Faraday Avenue, Carlsbad, CA 92008, US [US, US], for all designates States except US;  
 LUDWIG INSTITUTE FOR CANCER RESEARCH, 9500 Gilman Drive, La Jolla, CA 92093, US [US, US], for all designates States except US;  
 CENTER FOR NEUROLOGIC STUDY, 9850 Genesee Avenue, Suite 320, La Jolla, CA 92129, US [US, US], for all designates States except US;  
 BENNETT, Frank, C., 1347 Cassins Street, Carlsbad, CA 92009, US [US, US], for US only;  
 DOBIE, Kenneth, W, 703 Stratford Court, #4, Del Mar, CA 92014; US [US, US], for US only;  
 CLEVELAND, Don, W., 14181 Half Moon Bay Drive, Del Mar, CA 92014, US [US, US], for US only;  
 SMITH, Richard, Alan [, ], for US only;  
 CONDON, Thomas, P., 2450 Mark Circle, Carlsbad, CA 92008, US [US, US], for US only;  
 JAIN, Ravi, 306 Chinguapin Avenue, #2, Carlsbad, CA 92008, US [US, US], for US only;  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US, US], for US only  
 AG LICATA, Jane, Massey, Licata Tyrrell P.C., 66 E. Main Street, Marlton, NJ 08053, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2005040180 A2 20050506  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW  
 W-U: AE AL AM AT AZ BG BR BY BZ CN CO CR CZ DE DK EC EE EG ES FI GE HU JP KE KG KP KR KZ LS MD MX MZ NI PH PL PT RU SK SL TJ TR TT UA UG UZ YU  
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 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2004-US31673 A 20040927  
 PRAI US 2003-10/672,866 20030926  
 ICM C07H

L6 ANSWER 7 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

## Full Text

AN 2005028649 PCTFULL ED 20050405 EW 200513  
 TIEN RNA INTERFERENCE MEDIATED INHIBITION OF VASCULAR ENDOTHELIAL GROWTH FACTOR AND VASCULAR ENDOTHELIAL GROWTH FACTOR RECEPTOR GENE EXPRESSION USING SHORT INTERFERING NUCLEIC ACID (siNA)  
 TIFR INHIBITION MEDIEE PAR INTERFERENCE D'ARN DU FACTEUR DE CROISSANCE ENDOTHELIAL VASCULAIRE ET DE L'EXPRESSION DU GENE RECEPTEUR DU FACTEUR

## STN Columbus

DE CROISSANCE ENDOTHELIAL VASCULAIRE AU MOYEN D'UN ACIDE NUCLEIQUE A  
INTERFERENCE COURTE (SINA)

IN JADHAV, Vasant, 1951 Grandview Avenue, Apt. #A4-B, Boulder, CO 80302, US  
[IN, US];  
KOSSEN, Karl, 5696 West 109th Circle, Westminster, CO 80020, US [US,  
US];  
ZINNEN, Shawn, 2378 Birch Street, Denver, CO 80027, US [US, US];  
VAISH, Narendra, 1313 Williams Street, #503, Denver, CO 80218, US [IN,  
US];  
MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US]

PA SIRNA THERAPEUTICS, INC., 2950 Wilderness Place, Boulder, CO 80301, US  
[US, US], for all designates States except US;  
JADHAV, Vasant, 1951 Grandview Avenue, Apt. #A4-B, Boulder, CO 80302, US  
[IN, US], for US only;  
KOSSEN, Karl, 5696 West 109th Circle, Westminster, CO 80020, US [US,  
US], for US only;  
ZINNEN, Shawn, 2378 Birch Street, Denver, CO 80027, US [US, US], for US  
only;  
VAISH, Narendra, 1313 Williams Street, #503, Denver, CO 80218, US [IN,  
US], for US only;  
MCSWIGGEN, James, 4866 Franklin Drive, Boulder, CO 80301, US [US, US],  
for US only

AG SINGER, Christopher, P., McDonnell Boehnen Hulbert Berghoff, 300 South  
Wacker Drive, Suite 3200, Chicago, IL 60606, US

LAF English  
LA English  
DT Patent  
PI WO 2005028649 A1 20050331  
DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG  
MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE  
SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM  
ZW  
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SL TJ TR TT UA UG UZ YU  
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RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
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RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2004-US30488 A 20040916  
PRAI US 2003-10/665,255 20030916  
US 2003-10/664,767 20030916  
US 2003-10/670,011 20030923  
US 2003-10/693,059 20031023  
US 2003-10/720,448 20031124  
US 2003-10/727,780 20031203  
US 2004-10/757,803 20040114  
US 2004-10/764,957 20040126  
US 2004-60/543,480 20040210  
US 2004-10/780,447 20040213  
US 2004-10/826,966 20040416  
US 2004-10/831,620 20040423  
US 2004-US04/13456 20040430  
US 2004-10/844,076 20040511

ICM C12N015-11  
ICS C12P019-34; C07H021-02; C07H021-04; A01N043-04

## STN Columbus

Full Text

AN 2005023986 PCTFULL ED 20050323 EW 200511  
 TIEN MICRORNA AS LIGANDS AND TARGET MOLECULES  
 TIFR MICRO-ARN UTILISES COMME LIGANDS ET MOLECULES CIBLES  
 IN GRIFFEY, Richard, H., 360 Barsby Street, Vista, CA 92084, US [US, US];  
 BENNETT, C., Frank, 1347 Cassins Street, Carlsbad, CA 92009, US [US,  
 US];  
 ECKER, David, J., 1041 Saxony Road, Encinitas, CA 92024, US [US, US];  
 WARD, Donna, T., 41349 Magnolia Street, Murrieta, CA 92562, US [US, US];  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US, US]  
 PA ISIS PHARMACEUTICALS, INC., 2292 Faraday Avenue, Carlsbad CA 92008, US  
 [US, US], for all designates States except US;  
 GRIFFEY, Richard, H., 360 Barsby Street, Vista, CA 92084, US [US, US],  
 for US only;  
 BENNETT, C., Frank, 1347 Cassins Street, Carlsbad, CA 92009, US [US,  
 US], for US only;  
 ECKER, David, J., 1041 Saxony Road, Encinitas, CA 92024, US [US, US],  
 for US only;  
 WARD, Donna, T., 41349 Magnolia Street, Murrieta, CA 92562, US [US, US],  
 for US only;  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US,  
 US], for US only  
 AG LEGAARD, Paul, K., Cozen O'Connor, 1900 Market Street, Philadelphia, PA  
 19103, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2005023986 A2 20050317  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
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 RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2004-US28879 A 20040907  
 PRAI US 2003-60/500,724 20030904  
 US 2003-60/500,732 20030904  
 US 2003-60/500,723 20030904  
 US 2003-60/500,824 20030904  
 US 2003-60/500,730 20030904  
 US 2003-60/502,007 20030911  
 US 2003-60/502,076 20030911  
 US 2003-60/504,495 20030917  
 ICM C12N

L6 ANSWER 9 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2005020885 PCTFULL ED 20050315 EW 200510  
 TIEN COMPOSITIONS AND METHODS FOR THE TREATMENT OF SEVERE ACUTE RESPIRATORY  
 SYNDROME (SARS)  
 TIFR COMPOSITIONS ET METHODES POUR LE TRAITEMENT DU SYNDROME RESPIRATOIRE  
 AIGU SEVERE (SRAS)  
 IN HARDEE, Greg, 17407 La Brisa, Rancho Santa Fe, CA 92067, US [US, US];

# STN Columbus

DELLAMARY, Luis, 829 Quiet Hills Drive, San Marcos, CA 92069, US [MX, US]  
 PA ISIS PHARMACEUTICALS, INC., 2292 Faraday Avenue, Carlsbad, CA 92008, US [US, US], for all designates States except US;  
 HARDEE, Greg, 17407 La Brisa, Rancho Santa Fe, CA 92067, US [US, US], for US only;  
 DELLAMARY, Luis, 829 Quiet Hills Drive, San Marcos, CA 92069, US [MX, US], for US only  
 AG LEGAARD, Paul, K., Cozen O'Connor, 1900 Market Street, Philadelphia, PA 19103, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2005020885 A2 20050310  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW  
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 AI WO 2004-US16196 A 20040521  
 PRAI US 2003-60/472,774 20030521  
 ICM A61K

L6 ANSWER 10 OF 434 PCTFULL COPYRIGHT 2005 Univentio on STN

## Full Text

AN 2005019825 PCTFULL ED 20050309 EW 200509  
 TIEN SECRETED POLYPEPTIDE SPECIES AND USE THEREOF  
 TIFR ESPECES POLYPEPTIDIQUES SECRETEES ET UTILISATION ASSOCIEE  
 IN ARGOUD-PUY, Guilaine, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [FR, CH];  
 BEDERR, Nassima, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [FR, CH];  
 BOUGUELERET, Lydie, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [FR, CH];  
 CUSIN, Isabelle, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [FR, CH];  
 MAHE, Eve, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [FR, CH];  
 NIKNEJAD, Anne, c/o GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [CH, CH];  
 REFFAS, Samia, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [CH, CH];  
 ROSE, Keith, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [GB, CH];  
 SAUDRAIS, Cedric, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH [FR, CH];  
 SCHERER, Andreas, Kirchstrasse 11, 79618 Rheinfelden-Herten, DE [DE, DE];  
 PAPOIAN, Ruben, Gueterstrasse 43, CH-4053 Basel, CH [US, CH];  
 DENGLE, Uwe, Jochen, Pestalozzistrasse 55, 79540 Loerrach, DE [DE, DE];  
 CROFT, Laurence, James, Riehenring 25, CH-4058 Basel, CH [AU, CH]  
 PA GENOVA LTD., Canon's Court, 22 Victoria Street, Hamilton, HM 12, BM

# STN Columbus

[, ], for all designates States except US;  
 NOVARTIS AG, Lichtstrasse 35, CH-4056 Basel, CH [CH, CH], for all  
 designates States except AT US;  
 NOVARTIS PHARMA GMBH, Brunner Stasse 59, A-1230 Vienna, AT [AT, AT], for  
 AT only;  
 ARGOUUD-PUY, Guilaine, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217  
 Meyrin, CH [FR, CH], for US only;  
 BEDERR, Nassima, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin,  
 CH [FR, CH], for US only;  
 BOUGUELERET, Lydie, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217  
 Meyrin, CH [FR, CH], for US only;  
 CUSIN, Isabelle, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin,  
 CH [FR, CH], for US only;  
 MAHE, Eve, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH  
 [FR, CH], for US only;  
 NIKNEJAD, Anne, c/o GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217  
 Meyrin, CH [CH, CH], for US only;  
 REFFAS, Samia, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH  
 [CH, CH], for US only;  
 ROSE, Keith, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin, CH  
 [GB, CH], for US only;  
 SAUDRAIS, Cedric, GeneProt, Inc., 2, pre-de-la-Fontaine, CH-1217 Meyrin,  
 CH [FR, CH], for US only;  
 SCHERER, Andreas, Kirchstrasse 11, 79618 Rheinfelden-Herten, DE [DE,  
 DE], for US only;  
 PAPOIAN, Ruben, Gueterstrasse 43, CH-4053 Basel, CH [US, CH], for US  
 only;  
 DENGLE, Uwe, Jochen, Pestalozzistrasse 55, 79540 Loerrach, DE [DE, DE],  
 for US only;  
 CROFT, Laurence, James, Riehenring 25, CH-4058 Basel, CH [AU, CH], for  
 US only  
 AG GRUBB, Philip, Novartis AG, Corporate Intellectual Property, CH-4002  
 Basel, CH  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2005019825 A2 20050303  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR  
 CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
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 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
 NL PL PT RO SE SI SK TR  
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 RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2004-EP9323 A 20040819  
 PRAI US 2003-60/496,966 20030820  
 ICM G01N033-574  
 ICS G01N033-68

=> d his

(FILE 'HOME' ENTERED AT 18:17:04 ON 23 JUN 2005)



# STN Columbus

FILE 'CAPLUS' ENTERED AT 18:17:14 ON 23 JUN 2005

L1 2609 S PHOSPHORAMIDITE  
L2 1 S L1 AND HYDROPHOBIC (W) (BARRIER OR COATING)

FILE 'PCTFULL' ENTERED AT 18:21:09 ON 23 JUN 2005

L3 1 S (WO 2004029586)/PN,APPS  
L4 2256 S L1 AND HYDROPHOBIC (P) (BARRIER OR COATING)  
L5 441 S L4 AND TRITYL  
L6 434 S L5 AND HYDROPHOBIC (P) SURFACE

=> s l6 and trityl (3a) phorsphoramidite  
5900 TRITYL  
3 PHORSPHORAMIDITE  
0 TRITYL (3A) PHORSPHORAMIDITE  
L7 0 L6 AND TRITYL (3A) PHORSPHORAMIDITE

=> s l4 and trityl (3n) phoshporamidite  
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1 PHOSHPORAMIDITE  
0 TRITYL (3A) PHOSHPORAMIDITE  
L8 0 L4 AND TRITYL (3A) PHOSHPORAMIDITE

=> s trityl (3w) phosphoramidite  
5900 TRITYL  
8046 PHOSPHORAMIDITE  
L9 26 TRITYL (3W) PHOSPHORAMIDITE

=> s l9 and l4  
L10 12 L9 AND L4

=> d 1-12

L10 ANSWER 1 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

## Full Text

AN 2004064972 PCTFULL ED 20040816 EW 200432  
TIEN CAPTURE COMPOUNDS, COLLECTIONS THEREOF AND METHODS FOR ANALYZING THE  
PROTEOME AND COMPLEX COMPOSITIONS  
TIFR COMPOSES DE CAPTURE, COLLECTIONS ASSOCIEES ET METHODES D'ANALYSE DU  
PROTEOME ET DE COMPOSITIONS DE COMPLEXES  
IN LITTLE, Daniel, Paul, 62 Church Street, Winchester, MA 01890, US [US,  
US];  
SIDDIQI, Suhaib, Mahmood, 37 University Drive, Burlington, MA 01803, US  
[US, US];  
GREALISH, Matthew, Peter, 863 Sapphire Street #13, San Diego, CA 92109,  
US [US, US];  
MARAPPAN, Subramanian, 9924 Kika Court #2414, San Diego, CA 92129, US  
[IN, US];  
HASSMAN III, Chester, Frederick, 586 Edgewater Avenue, Oceanside, CA  
92057, US [US, US];  
YIP, Ping, 3641 Copley Avenue, San Diego, CA 92116, US [US, US];  
KOESTER, Hubert, Villa Wellingtonia, Via Cantonale 84, CH-6918 Figino,  
CH [US, DE]  
PA HK PHARMACEUTICALS, INC., 840 Memorial Drive, Cambridge, MA 02139, US  
[US, US], for all designates States except US;  
LITTLE, Daniel, Paul, 62 Church Street, Winchester, MA 01890, US [US,  
US], for US only;  
SIDDIQI, Suhaib, Mahmood, 37 University Drive, Burlington, MA 01803, US  
[US, US], for US only;  
GREALISH, Matthew, Peter, 863 Sapphire Street #13, San Diego, CA 92109,  
US [US, US], for US only;  
MARAPPAN, Subramanian, 9924 Kika Court #2414, San Diego, CA 92129, US  
[IN, US], for US only;

# STN Columbus

HASSMAN III, Chester, Frederick, 586 Edgewater Avenue, Oceanside, CA 92057, US [US, US], for US only;  
 YIP, Ping, 3641 Copley Avenue, San Diego, CA 92116, US [US, US], for US only;  
 KOESTER, Hubert, Villa Wellingtonia, Via Cantonale 84, CH-6918 Figino, CH [US, DE]

AG SEIDMAN, Stephanie, L., U.S. Registration No. 33,779, Fish Richardson P.C., 12390 El Camino Real, San Diego, CA 92130, US

LAF English

LA English

DT Patent

PI WO 2004064972 A2 20040805

DS W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

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RW-U (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

AI WO 2004-US1037 A 20040116

PRAI US 2003-60/441,398 20030116

ICM B01D

L10 ANSWER 2 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

## Full Text

AN 2004050677 PCTFULL ED 20040622 EW 200425

TIEN NOVEL CHEMICAL COMPOUNDS AND THEIR USE

TIFR COMPOSES CHIMIQUES ET LEUR UTILISATION

IN CIANCI, Julia, 29 Howard Street, RICHMOND, Victoria 3121, AU [AU, AU];  
 DRAFFAN, Alistair, G., 3/11 Pilley Street, EAST ST KILDA, Victoria 3183, AU [GB, AU];  
 LAMBERT, John, N., 1 Ralph Street, BLACKBURN SOUTH, Victoria 3130, AU [AU, AU];  
 NEARN, Roland, H., 5 Amron Street, CHELSEA HEIGHTS, Victoria 3196, AU [AU, AU];  
 NGUYEN, Van, T., T., 2 Acland Court, NOBLE PARK, Victoria 3174, AU [AU, AU]

PA BIOTA SCIENTIFIC MANAGEMENT PTY LTD, Level 4, 616 St Kilda Road, MELBOURNE, Victoria 3004, AU [AU, AU], for all designates States except US;  
 CIANCI, Julia, 29 Howard Street, RICHMOND, Victoria 3121, AU [AU, AU], for US only;  
 DRAFFAN, Alistair, G., 3/11 Pilley Street, EAST ST KILDA, Victoria 3183, AU [GB, AU], for US only;  
 LAMBERT, John, N., 1 Ralph Street, BLACKBURN SOUTH, Victoria 3130, AU [AU, AU], for US only;  
 NEARN, Roland, H., 5 Amron Street, CHELSEA HEIGHTS, Victoria 3196, AU [AU, AU], for US only;  
 NGUYEN, Van, T., T., 2 Acland Court, NOBLE PARK, Victoria 3174, AU [AU, AU], for US only

AG GRIFFITH HACK, 509 St Kilda Road, Melbourne, Victoria 3004, AU

LAF English

LA English

DT Patent

PI WO 2004050677 A1 20040617

## STN Columbus

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 NL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2003-AU1588 A 20031128  
 PRAI AU 2002-2002953095 20021129  
 ICM C07H015-234  
 ICS A61K031-7036; A61P031-00

L10 ANSWER 3 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2004031399 PCTFULL ED 20040421 EW 200416  
 TIEN PARALLEL LOADING OF ARRAYS  
 TIFR CHARGEMENT EN PARALLELE DE RESEAUX  
 IN GREEN, Roland, D., 2017 Frazer Place, Madison, WI 53713, US;  
 MCCORMICK, Mark, 5710 Taychopera Road, Madison, WI 53705, US;  
 BARRETT, Gary, 3033 Maple Grove Drive, Madison, WI 53719, US  
 PA NIMBLEGEN SYSTEMS, INC., 1 Science Court, Madison, WI 53711, US [US, US]  
 AG SEAY, Nicholas, J., Quarles Brady LLP, P.O. Box 2113, Madison, WI  
 53701-21113, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2004031399 A2 20040415  
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 AI WO 2003-US30841 A 20030930  
 PRAI US 2002-60/415,118 20020930  
 US 2002-60/415,090 20021001  
 ICM C12Q

L10 ANSWER 4 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2004029586 PCTFULL ED 20040414 EW 200415  
 TIEN MICROARRAY WITH HYDROPHOBIC BARRIERS  
 TIFR MICRORESEAU A BARRIERES HYDROPHOBES  
 IN MCCORMICK, Mark, 5710 Taychopera Road, Madison, WI 53705, US;  
 STENGEL, Klaus-Peter, Eichenweg 17, 84568 Pleiskirchen, DE;  
 BARRETT, Gary, 7202 Flagship Drive, #3, Madison, WI 53719, US;  
 GREEN, Roland, 2017 Frazer Place, Madison, WI 53713, US  
 PA NIMBLEGEN SYSTEMS, INC., 1 Science Court, Madison, WI 53711, US [US, US]  
 AG SEAY, Nicholas, J., Quarles Brady LLP, P.O. Box 2113, Madison, WI  
 53701-21113, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2004029586 A1 20040408  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

# STN Columbus

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 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
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 NL PT RO SE SI SK TR  
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 AI WO 2003-US30298 A 20030929  
 PRAI US 2002-60/414,777 20020927  
 ICM G01N001-00  
 ICS C12Q001-68

L10 ANSWER 5 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

## Full Text

AN 2004005460 PCTFULL ED 20040122 EW 200403  
 TIEN ANTISENSE MODULATION OF HMG-COA REDUCTASE EXPRESSION  
 TIFR MODULATION ANTISENS DE L'EXPRESSION DE LA REDUCTASE DE HMG-COA  
 IN DEAN, Nicholas, M., 2110 Whisperwind Lane, Olivenhain, CA 92024, US [GB,  
 US];  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US,  
 US];  
 DOBIE, Kenneth, W., 703 Stratford Ct. #4, Del Mar, CA 92014, US [GB, US]  
 PA ISIS PHARMACEUTICALS INC., 2292 Faraday Avenue, Carlsbad, CA 92008, US  
 [US, US], for all designates States except US;  
 DEAN, Nicholas, M., 2110 Whisperwind Lane, Olivenhain, CA 92024, US [GB,  
 US], for US only;  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US,  
 US], for US only;  
 DOBIE, Kenneth, W., 703 Stratford Ct. #4, Del Mar, CA 92014, US [GB,  
 US], for US only  
 AG BAK, Mary, E., Howson and Howson, Spring House Corporate Center, P.O.  
 Box 457, Sping House, PA 19477, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2004005460 A2 20040115  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
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 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
 NL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2003-US16249 A 20030702  
 PRAI US 2002-10/190,366 20020702  
 ICM C12N

L10 ANSWER 6 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

## Full Text

AN 2004005312 PCTFULL ED 20040122 EW 200403  
 TIEN ANTISENSE MODULATION OF PTPRK EXPRESSION  
 TIFR MODULATION ANTISENS DE L'EXPRESSION DE PTPRK  
 IN COWSERT, Lex, M., 1299 Parrot Drive, San Mateo, CA 94402, US [US, US];  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US, US]  
 PA ISIS PHARMACEUTICALS INC., 2292 Faraday Avenue, Carlsbad, CA 92008, US  
 [US, US], for all designates States except US;  
 COWSERT, Lex, M., 1299 Parrot Drive, San Mateo, CA 94402, US [US, US],

## STN Columbus

for US only;  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92122, US [US,  
 US], for US only  
 AG BAK, Mary, E., Howson and Howson, Spring House Corporate Center, P.O.  
 Box 457, Spring House, PA 19477, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2004005312 A1 20040115  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
 CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN  
 MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL  
 SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW  
 RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
 NL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2003-US16237 A 20030627  
 PRAI US 2002-10/189,429 20020703  
 ICM C07H021-02  
 ICS C07H021-04; A61K048-00; C12Q001-68; C12N015-85; C12N015-86; C12P019-34

L10 ANSWER 7 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2003092581 PCTFULL ED 20031118 EW 200346  
 TIEN CAPTURE COMPOUNDS, COLLECTIONS THEREOF AND METHODS FOR ANALYZING THE  
 PROTEOME AND COMPLEX COMPOSITIONS  
 TIFR COMPOSES DE CAPTURE, RECUEILS DE CEUX-CI ET PROCEDES D'ANALYSE DU  
 PROTEOME ET COMPOSITIONS COMPLEXES  
 IN KOESTER, Hubert, 8636-C Via Mallorca Drive, La Jolla, CA 92037, US [DE,  
 US];  
 SIDDIQI, Suhaib, 3879 Mesa Drive, Apt. 205, Oceanside, CA 92056, US [US,  
 US];  
 LITTLE, Daniel, P., 155 Indian Hill Road, Groton, MA 01450, US [US, US]  
 PA HK PHARMACEUTICALS, INC., 840 Memorial Drive, Cambridge, MA 02139, US  
 [US, US], for all designates States except US;  
 KOESTER, Hubert, 8636-C Via Mallorca Drive, La Jolla, CA 92037, US [DE,  
 US], for US only;  
 SIDDIQI, Suhaib, 3879 Mesa Drive, Apt. 205, Oceanside, CA 92056, US [US,  
 US], for US only;  
 LITTLE, Daniel, P., 155 Indian Hill Road, Groton, MA 01450, US [US, US],  
 for US only  
 AG SEIDMAN, Stephanie, L., Heller Ehrman White McAuliffe LLP, 4350 La  
 Jolla Village Drive, 7th Floor, San Diego, CA 92122-1246, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2003092581 A2 20031113  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
 CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN  
 MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM  
 TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW  
 RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL  
 PT SE SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2002-US22821 A 20020716  
 PRAI US 2001-60/306,019 20010716

## STN Columbus

US 2001-60/314,123 20010821  
 US 2002-60/363,433 20020311  
 ICM A61K

L10 ANSWER 8 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2003077851 PCTFULL ED 20031001 EW 200339  
 TIEN COMPOUNDS AND METHODS FOR ANALYZING THE PROTEOME  
 TIFR COMPOSES ET PROCEDES POUR ANALYSER LE PROTEOME  
 IN SHCHEPINOV, Mikhail, S., 13754 Mango Drive, Apt. 119, Del Mar, CA 92014, US [RU, US];  
 LITTLE, Daniel, P., 155 Indian Hill Road, Groton, MA 01450, US [US, US];  
 KOeSTER, Hubert, 8636 C Via Mallorca Drive, La Jolla, CA 92037, US [US, DE]  
 PA HK PHARMACEUTICALS, INC., 6190 Cornerstone Ct. East, San Diego, CA 92121, US [US, US], for all designates States except US;  
 SHCHEPINOV, Mikhail, S., 13754 Mango Drive, Apt. 119, Del Mar, CA 92014, US [RU, US], for US only;  
 LITTLE, Daniel, P., 155 Indian Hill Road, Groton, MA 01450, US [US, US], for US only;  
 KOeSTER, Hubert, 8636 C Via Mallorca Drive, La Jolla, CA 92037, US [US, DE]  
 AG SEIDMAN, Stephanie, L., Heller Ehrman White McAuliffe LLP, 7th Floor, 4350 La Jolla Village Drive, San Diego, CA 92122-1246, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2003077851 A2 20030925  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
 CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN  
 MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM  
 TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW  
 RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC  
 NL PT RO SE SI SK TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2003-US7479 A 20030311  
 PRAI US 2002-60/363,433 20020311  
 ICM A61K

L10 ANSWER 9 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2002092772 PCTFULL ED 20021210 EW 200247  
 TIEN ANTISENSE MODULATION OF PTP1B EXPRESSION  
 TIFR MODULATION ANTISENS DE L'EXPRESSION DE PTP1B  
 IN COWSERT, Lex, M., 3008 Newshire Street, Carlsbad, CA 92008, US [US, US];  
 WYATT, Jacqueline, 1065 Hymettus Avenue, Encinitas, CA 92024, US [US, US];  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92112, US [US, US];  
 MONIA, Brett, P., 7605 Nueva Castille Way, La Costa, CA 92009, US [US, US];  
 BUTLER, Madeline, M., 15951 Avenida Calma, Rancho Santa Fe, CA 92091, US [US, US];  
 MCKAY, Robert, 277 Caminito Pescado #73, San Diego, CA 92116, US [US, US]  
 PA ISIS PHARMACEUTICALS, INC., Carlsbad Research Center, 2292 Faraday Avenue, Carlsbad, CA 92008, US [US, US], for all designates States except US;  
 COWSERT, Lex, M., 3008 Newshire Street, Carlsbad, CA 92008, US [US, US],

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 WYATT, Jacqueline, 1065 Hymettus Avenue, Encinitas, CA 92024, US [US,  
 US], for US only;  
 FREIER, Susan, M., 2946 Renault Street, San Diego, CA 92112, US [US,  
 US], for US only;  
 MONIA, Brett, P., 7605 Nueva Castille Way, La Costa, CA 92009, US [US,  
 US], for US only;  
 BUTLER, Madeline, M., 15951 Avenida Calma, Rancho Santa Fe, CA 92091, US  
 [US, US], for US only;  
 MCKAY, Robert, 277 Caminito Pescado #73, San Diego, CA 92116, US [US,  
 US], for US only  
 AG BAK, Mary, E., Howson and Howson, Spring House Corporate Center, P.O.  
 Box 457, Spring House, PA 19477, US  
 LAF English  
 LA English  
 DT Patent  
 PI WO 2002092772 A2 20021121  
 DS W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
 CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN  
 MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM  
 TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW  
 RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM  
 RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
 AI WO 2002-US15301 A 20020513  
 PRAI US 2001-09/854,883 20010514  
 ICM C12N

L10 ANSWER 10 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 2000000633 PCTFULL ED 20020515  
 TIEN OCT1p, A PROTEIN HAVING HOMOLOGY TO THE ORGANIC AND SUGAR TRANSPORTER  
 FAMILY OF PROTEINS, AND USES THEREOF  
 TIFR OCT1p, PROTEINE PRESENTANT UNE HOMOLOGIE AVEC LA FAMILLE DES PROTEINES  
 ORGANIQUES ET TRANSPORTEUSES DE GLUCIDES ET UTILISATION  
 IN GOODEARL, Andrew, J.;  
 GLUCKSMANN, Maria, Alexandra  
 PA MILLENNIUM PHARMACEUTICALS, INC.  
 LA English  
 DT Patent  
 PI WO 2000000633 A1 20000106  
 DS W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE  
 ES FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC  
 LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD  
 SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW GH GM KE  
 LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH  
 CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG  
 CI CM GA GN GW ML MR NE SN TD TG  
 AI WO 1999-US14880 A 19990629  
 PRAI US 1998-09/107,932 19980630  
 ICM C12P021-06

L10 ANSWER 11 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN

Full Text

AN 1997037999 PCTFULL ED 20020514  
 TIEN SYNTHETIC TRIPLE HELIX-FORMING COMPOUNDS  
 TIFR COMPOSES SYNTHETIQUES FORMANT UNE TRIPLE HELICE  
 IN GOLD, Barry, I.  
 PA UNIVERSITY OF NEBRASKA BOARD OF REGENTS;  
 GOLD, Barry, I.

# STN Columbus

LA English  
 DT Patent  
 PI WO 9737999 A1 19971016  
 DS W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB  
 GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN  
 MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG  
 US UZ VN KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT  
 BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF  
 CG CI CM GA GN ML MR NE SN TD TG

AI WO 1996-US4649 A 19960404  
 ICM C07H017-02  
 ICS C07D; C07D; C07D; C07D; C07D; C07D; C07D; C07D; C07D; C07D; C07D;  
 C07D; C07D; C07D; C07D; C07D; C07D; C07D; C07D; C07D; C07D;  
 C07D; C07D; C07D; C07D; C07D; C07D

L10 ANSWER 12 OF 12 PCTFULL COPYRIGHT 2005 Univentio on STN  
Full Text  
 AN 1996023777 PCTFULL ED 20020514  
 TIEN SYNTHETIC TRIPLE HELIX-FORMING COMPOUNDS  
 TIFR COMPOSES SYNTHETIQUES FORMANT UNE TRIPLE HELICE  
 IN GOLD, Barry, I.  
 PA UNIVERSITY OF NEBRASKA BOARD OF REGENTS;  
 GOLD, Barry, I.  
 DT Patent  
 PI WO 9623777 A1 19960808  
 DS W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB  
 GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN  
 MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG  
 US UZ VN KE LS MW SD SZ UG AZ BY KG KZ RU TJ TM AT BE CH  
 DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM  
 GA GN ML MR NE SN TD TG

AI WO 1996-US1473 A 19960129  
 PRAI US 1995-8/384,324 19950201  
 ICM C07D

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